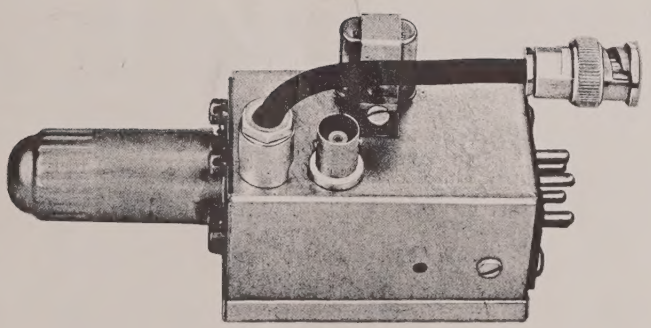
MANUAL

Telonic®

PLUG-IN MARKER

TYPE C

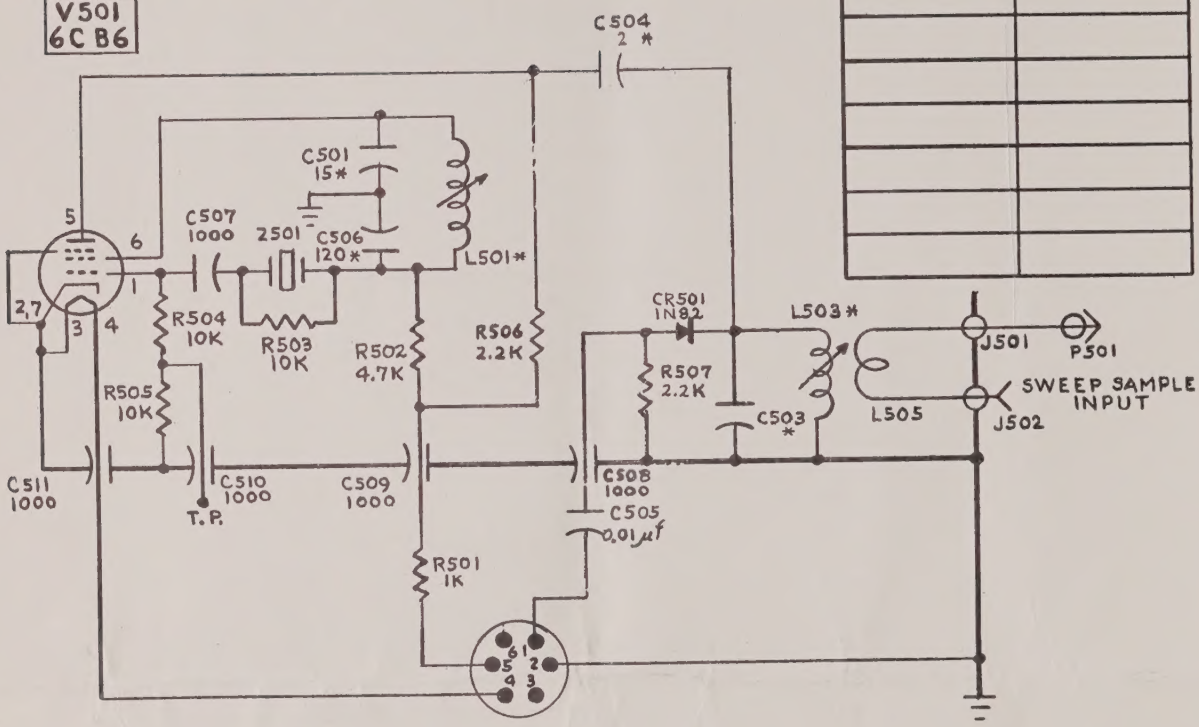


807

Telonic INDUSTRIES, INC. BEECH GROVE, INDIANA

PLUG-IN MARKER
TYPE C

MARKER FREQUENCY MC	XTAL FREQUENCY MC
10.7	42.8



GENERAL DESCRIPTION: These units contain an overtone crystal oscillator comprised of the screen grid, control grid, and cathode circuit of the 6CB6 tube. Since the oscillator operates Class C, the plate current consists of sharp pulses which result in a signal rich in harmonics. This signal is coupled by C504 to a tank circuit (L503 and C503)tuned to the frequency of the desired marker. A sample of the sweep signal is also coupled into this tank circuit by L505. These two signals are then mixed in a crystal diode mixer, CR501. The resultant birdy is fed into the Birdy-By-Pass Amplifier, superimposed upon the demodulated swept signal and applied to the Vertical Amplifier of the oscilloscope.

ADJUSTMENT PROCEDURE: A test point is provided for easy adjustment of the crystal oscillator. L501 is adjusted for near maximum negative voltage at this test point. This is usually in the order of 1 to 5 volts. This adjustment should be made slightly off the peak on the low inductance side since the effects of tuning are critical on the other side of the resonant curve. L503 is adjusted for maximum marker amplitude and minimum spurious marker signals. Marker size can be varied by adjusting the coupling between L505 and L503. Spurious markers at multiples of the crystal oscillator frequency and a weak marker at the desired frequency will result if CR501 has a low front to back ratio. The ratio of desired to spurious markers will normally be over 10 to 1.

PARTS LIST FOR MARKER BOX

CIRCUIT REF.	DESCRIPTION	PART NO.
C501*	Capacitor: fixed, ceramic, disc, 15 uuf., ±10%, NPO, 1000 vdcw	C-7
C502*	This circuit reference not assigned.	
C503*	Capacitor: fixed, ceramic, disc, ±10%, NPO, 1000 vdcw	
C504*	Capacitor: fixed, composition, 2 uuf., ±10%, 500 vdcw	C-33
C505	Capacitor: fixed, ceramic, disc, 0.01μf, +80-20%, 500 vdcw	C-20
C506*	Capacitor: fixed, ceramic, disc, 120 uuf., ±10%, N750, 1000 vdcw	C-14
C507	Capacitor: fixed, ceramic, disc, 1000 uuf., GMV, 600 vdcw	C-19
C508	Capacitor: fixed, ceramic, feed thru, 1000 uuf., GMV, 500 vdcw	C-39
C509	Capacitor: fixed, ceramic, feed thru, 1000 uuf., GMV, 500 vdcw	C-39
C510	Capacitor: fixed, ceramic, feed thru, 1000 uuf., GMV, 500 vdcw	C-39
C511	Capacitor: fixed, ceramic, feed thru, 1000 uuf., GMV, 500 vdcw	C-39
CR501	Rectifier: crystal diode, 1N82	D-1
J501	BNC Termination: cable MX1684/U	J-9
J502	BNC Jack: Receptacle, single hole mounted UG625/U	J-7
P501	BNC Plug: cable UG88/U	J-1
L501*	Coil: adjustable	
L502*	This circuit reference not assigned.	
L503*	Coil: adjustable	
L504	This circuit reference not assigned	
L505*	Coil: fixed, coupling loop	
R501	Resistor: fixed, composition, 1KΩ, ±10%, 1/2W	R-18
R502	Resistor: fixed, composition, 4.7K ohms, ±10%, ½W	R-21
R503	Resistor: fixed, composition, 10K ohms, ±10%, ½W	R-23
R504	Resistor: fixed, composition, 10K ohms, ±10%, ½W	R-23
R505	Resistor: fixed, composition, 10K ohms, ±10%, ½W	R-23
R506	Resistor: fixed, composition,2.2K ohms, ±10%, ½W	R-20
R507	Resistor: fixed, composition,2.2K ohms, ±10%, ½W	R-20
V501	Tube: electronic: 6CB6	VT-6
Z501*	Crystal: Quartz, overtone, series operation, .005%	
	Plug: marker	S-12
	Shield: tube	S-14
	Socket: 7 pin mica filled	S-7
	Socket: Quartz Crystal	S-18
	Socket: crystal diode	S-9

*These values subject to change depending upon the specific marker frequencies.

TELONIC INSTRUMENTS AND ACCESSORIES

Products manufactured by TELONIC INDUSTRIES, INC. are guaranteed against defective materials and workmanship for a period of one year (vacuum tubes and semiconductors excepted) from date of purchase. This warranty does not apply to instruments that have been altered, improperly handled or damaged in any way beyond our control.

Instruments must be examined immediately upon receipt, since claims for damage in transit will not be honored by the carrier unless prompt action is taken.

CHANGES IN SPECIFICATIONS

The right is reserved to change the published specifications of equipment at any time, and to furnish merchandise in accordance with current specifications, without incurring any liability to modify equipment previously sold.

RETURNING EQUIPMENT TO FACTORY

Factory service is available for repair and readjustment of this instrument. However, a description of the trouble should be forwarded FIRST, whereupon instructions for correcting the trouble OR authorization for returning the equipment will be given. This applies to all units, whether under warranty or not.